

A photograph of an astronaut in a white spacesuit floating in space, with the Earth's blue and white clouds visible in the background. The astronaut is positioned centrally, with arms slightly out to the sides.

International Youth Art Competition

**National Human Health and Performance Center
“Connecting Through Collaboration” Workshop
NASA Ames Research Center
October 18, 2011**

**Jancy C. McPhee, Ph.D., Director
Humans in Space Symposium
Youth Art Competition**



Today's Presentation

Needs: STEM Education, Outreach, & Innovation

STEM Education & Outreach: Why Integrate Art?

International Humans in Space Youth Art Competition

- Project Opportunity
- Education & Innovation Success
- Outreach Success
- Ongoing Potential of Project
- Collaboration for Success

Future Projects

Considerations for Future Challenges

Concluding Remarks





Needs: Education, Outreach, & Innovation

- Develop youth math & science skills
- Enhance awareness, interest & support for scientific & technical topics
- Promote creative & critical thinking, problem solving, & communication skills

STEM Education Outreach: Why Integrate Art? Historical Lessons





STEM Education Outreach: Why Integrate Art? Present Day Education, Outreach & Innovation

Outreach

The “why” of space exploration is a matter of emotions and instincts...The majority of...citizens are not engineers or scientists. *It takes a variety of languages, including those of art, music, and literature, to reach them.**

Education

*...Students acquire from studying the arts...the skills needed to be successful in the global economy...creativity and innovation; critical thinking and problem solving; communication and collaboration; flexibility and adaptability; and social and cross cultural skills...Researchers have also found a strong relationship between instruction in the arts and learning mathematical skills and improving student observational skills in science.***

Innovation

*Imagination is the capacity to conceive what is not, then creativity in turn, is the imagination applied...innovation comes when an act of creativity has somehow advanced the form.****

*Piers Bizony, “The Bigger Pictures”, ASK Magazine Number 33: Winter 2009; pgs. 19–22)

**Joan Platz, “Turn STEM to STEAM..Add the Arts!”, Ohio Alliance for Arts Education, October 2007, viewed March 11, 2010, <http://www.oaae.net/projects.php?id=9>

***Eric Liu and Scott Noppe-Brandon, Imagination First, California, John Wiley & Sons Inc., 2009, p.19



Project Opportunity



“Integration & Cooperation in the
Next Golden Age of Human Space Flight”

Need to

Engage youth since “Youth ARE the future.”

Outreach, Education, and Innovation



Education & Innovation Success: Participation



1st Phase (1.5 years) Online Competition

“What is the future of human spaceflight and why is it important?”

Be Inspired, Be Creative, Be Heard

- 550 Literary, visual, video and musical artwork entries
- 22 Countries of origin
- 71 Judges worldwide
- 10 Top winning visitors discuss ideas with Symposium attendees



Education & Innovation Success: Youth Voice

WHAT IS THE FUTURE?



Location
Transportation
Construction
Science

Living
Peace
Life Elsewhere
Dreams

Questions
Curiosity
Self Knowledge
Cooperation
Camaraderie
Creativity
Adventure
Fun
New Home



WHY IS IT IMPORTANT?



Education & Innovation Success: Youth Voice

***Like a phoenix,
the era of space
will rise once
more, heralding
in a new
Golden Age.***



Education & Innovation Success: Artist Survey "Data"

Please rate your agreement with the following statements on a scale from 0 (Strong Disagreement) to 5 (Strong Agreement).

I had fun with this type of project.	<input type="range" value="4.5"/>	4.5	<i>Fun</i>
Participating in this project taught me something about science, engineering or technology (including using computers or software).	<input type="range" value="3.9"/>	3.9	<i>Educational</i>
The chance to have others "see or hear" my ideas made me want to participate in the competition.	<input type="range" value="4.3"/>	4.3	<i>Awards are Good.... But "Heard" is even Better</i>
The chance to win a prize made me want to participate in the competition.	<input type="range" value="3.8"/>	3.8	
Do you live in the United States?	<input type="range" value="0"/>		
How did you find out about the Competition?			
<input type="radio"/> Teacher told me		20	
<input checked="" type="radio"/> Saw advertising flyer		3	<i>Found out by</i>
<input type="radio"/> Found Competition website on my own.		18	
<input type="radio"/> Competition website found from another website link		10	<i>Surfing the Internet &</i>
<input type="radio"/> Other		10	<i>Hearing from Teachers</i>
Please Explain:	<input type="text" value="Parent, friend, NASA employee"/>		



Education & Innovation Success: Artist Survey Comments

“I will remember and treasure it for the rest of my life.”

“It helped me learn a lot about human space exploration and taught me to be creative.”

“I now have another source of inspiration. It is not everyday that people take the time to see the relationship between art, science, and technology.”

“I once again express my heartfelt gratitude for the valuable opportunity, which is of a great use for the children like me all over the world.”

“I would like to thank the organizing team...for giving voices to hundreds of youth across the globe to express their concern and views through the talents they possess.”





Outreach Success: Product Visibility

2nd Phase (6 months & ongoing) 16 Displays & 2 Performances

International Humans in Space Symposium Display & Performance (Adult Audience)

NASA Johnson Space Center (JSC) Displays

Innovation Day

Bring Your Child To Work Day, Honors Awards Ceremony, Teague Auditorium
Cafeterias & TEDx Event

Engineering Systems Building Lobby

Houston Area Public Displays & Performances:

Yuri's Night Texas Display (Discovery Green)

Texas Design Challenge Display (South Shore Harbor)

"Summer of Innovation" Display (Space Center Houston [SCH])

JSC Shuttle Program Celebration (Public Event at JSC)

"Home School Day" Multimedia Performance (SCH, Youth Audience)

Rotunda Display (Universities Space Research Association)

Other US Venues Displays:

Imagination Summit (Lincoln Center Institute, New York)

"Celestial Matters" (Charles Bank Gallery ,New York)

NHHPC Workshop (NASA Ames Research Center, California)

Worldwide Display via Online Gallery at:

www.humansinspaceart.org





Outreach Success: Performance Example

Symposium Multimedia Opening Ceremony Performance

Orchestra plays youth musical artwork with visual art & literary quotes on slides for 3 sets; last set video artwork

Set 1: What is the future of human space exploration?

Set 2: Why is it important?

Example of this set summarizing youth messages.

Set 3: How will it happen?

Set 4: Who will do it?



Space Center Houston Multimedia Performance

Act 1: Reader Recites Youth Poetry

Act 2: Quintet Plays Youth Orchestral Composition (Set 1)

Act 3: Dancers Perform to Youth Orchestral

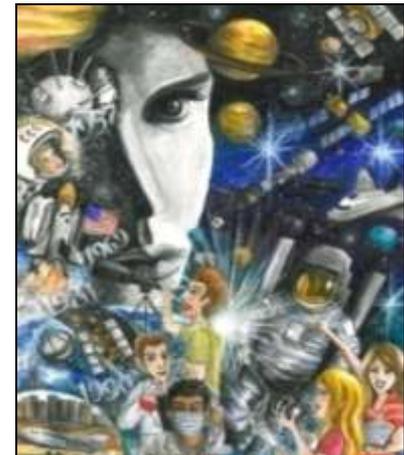
Music Recording (Set 2)

Act 4: Band Performs Youth Video Music & Pop Music
Compositions



Outreach Success: Widespread

- 1 Letter to President Obama
- 773 YouTube hits on winning video
- 5,760 Google hits on “Humans in Space”
“Youth Art Competition”
- 69,563 Youth Art Website Hits
- 2 International Space Station Downlinks
- 16 Venues SO FAR



Collaboration for Success

Diverse Project Partners:

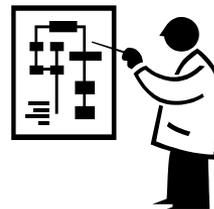
Project design, Website design, Social media & advertising, Award fund raising & prizes, Judging, Live multimedia performances, Graphical & audio-visual products, etc.



QUANTLAB FINANCIAL, LLC



clear lake high school
orchestra





Ongoing Potential for STEM Education & Outreach

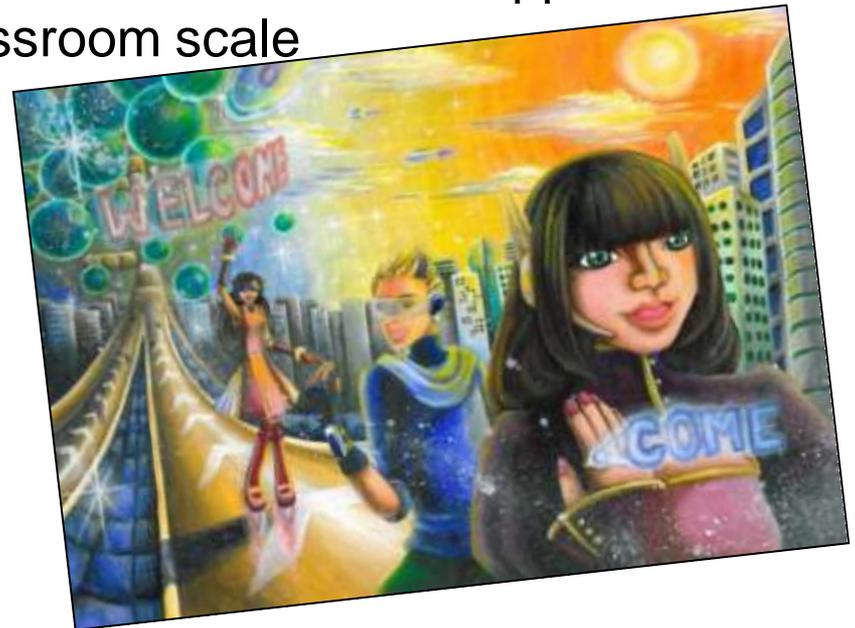
Future Venues for Display and Performance

NASA centers, museums, galleries, conferences, events, etc.

Curriculum Packets

Artwork as anticipatory “hooks”, learning tools, illustrations

Project as model for similar approach on classroom scale



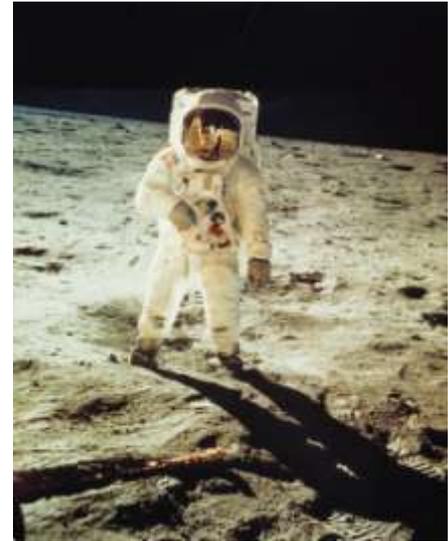
Future Projects

New Challenges

- Design new challenge to suit particular goals
- Use already developed processes and team to carry out

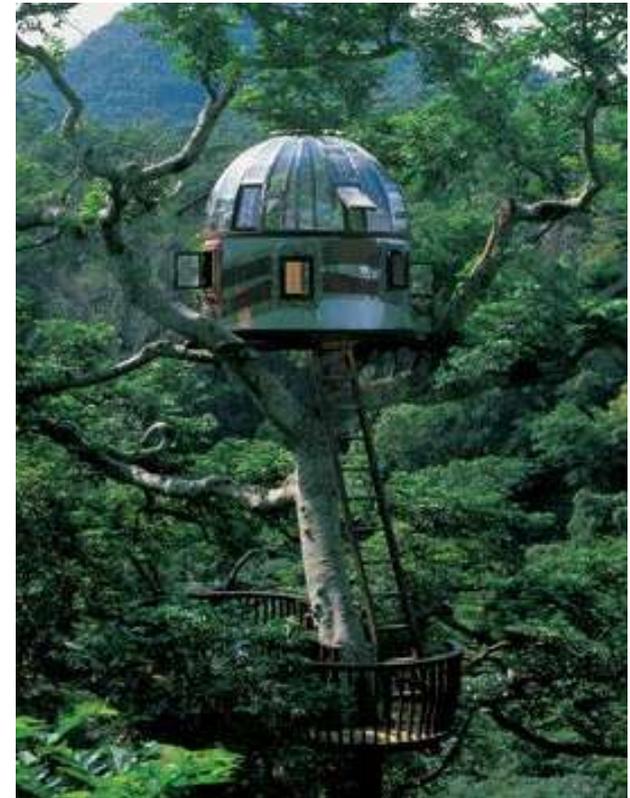
Curriculum Packets

- Flexible approach allows multiple targets
- Similar to large-scale challenges but on classroom scale
- Product “artwork” communicates student’s new concept ideas or mastery of material



Considerations for a Successful Challenge

- Objectives
- Question Design
- Target & Scope
- Challenge “Home” & Management
- Advertisement
- Background Knowledge & Mentoring
- Products
- Judging
- Timing
- Rewards
- Product Visibility
- Collaborators





Concluding Remarks

Goals

Outreach, Education and Innovation

Integrate Tools: Art & Partners

Promote imagination & critical thinking,
motivation, & communication

Widespread Success

Support & *creative* STEM capabilities

